



PTO/SB/21 (09-04)

Approved for use through 07/31/2006. OMB 0651-0031

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**TRANSMITTAL
FORM**

(to be used for all correspondence after initial filing)

Total Number of Pages in This Submission

5

Application Number

10/714,795

Filing Date

November 17, 2003

First Named Inventor

Li, et al.

Art Unit

3732

Examiner Name

Attorney Docket Number

5853-376

ENCLOSURES (Check all that apply)

Fee Transmittal Form



Fee Attached



Amendment/Reply



After Final



Affidavits/declaration(s)



Extension of Time Request



Express Abandonment Request



Information Disclosure Statement



Certified Copy of Priority Document(s)

Reply to Missing Parts/
Incomplete ApplicationReply to Missing Parts
under 37 CFR 1.52 or 1.53

Drawing(s)



Licensing-related Papers



Petition

Petition to Convert to a
Provisional Application

Power of Attorney, Revocation



Change of Correspondence Address



Terminal Disclaimer



Request for Refund



CD, Number of CD(s) _____

☐ Landscape Table on CD

Remarks



After Allowance Communication to TC

Appeal Communication to Board
of Appeals and InterferencesAppeal Communication to TC
(Appeal Notice, Brief, Reply Brief)

Proprietary Information



Status Letter

Other Enclosure(s) (please identify
below):

Postcard Receipt

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name

Akerman Senterfitt

Signature

Printed name

Neil R. Jetter

Date

November 18, 2004

Reg. No.

46,803

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below:

Signature

Typed or printed name

Neil R. Jetter

Date

November 17, 2004

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450 DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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IFW ~~DAE~~

PTO/SB/17 (10-04v2)

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FEE TRANSMITTAL for FY 2005

Effective 10/01/2004. Patent fees are subject to annual revision.

☒ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$ 130.00)

Complete if Known

Application Number	10/714,795
Filing Date	November 17, 2003
First Named Inventor	LI, et al.
Examiner Name	
Art Unit	3732
Attorney Docket No.	5853-376

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None

☒ Deposit Account:

Deposit Account Number: 50-0951
Deposit Account Name: Akerman Senterfitt

The Director is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☒ Credit any overpayments

☒ Charge any additional fee(s) or any underpayment of fee(s)

☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	790	2001	395	Utility filing fee	
1002	350	2002	175	Design filing fee	
1003	550	2003	275	Plant filing fee	
1004	790	2004	395	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	
SUBTOTAL (1)				(\$)	

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

	Extra Claims	Fee from below	Fee Paid
Total Claims	-20** =	X	
Independent Claims	-3** =	X	
Multiple Dependent			

Large Entity		Small Entity		Fee Description
Fee Code	Fee (\$)	Fee Code	Fee (\$)	
1202	18	2202	9	Claims in excess of 20
1201	88	2201	44	Independent claims in excess of 3
1203	300	2203	150	Multiple dependent claim, if not paid
1204	88	2204	44	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$)

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1051	130	2051	65	Surcharge - late filing fee or oath	
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for <i>ex parte</i> reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	430	2252	215	Extension for reply within second month	
1253	980	2253	490	Extension for reply within third month	
1254	1,530	2254	765	Extension for reply within fourth month	
1255	2,080	2255	1,040	Extension for reply within fifth month	
1401	340	2401	170	Notice of Appeal	
1402	340	2402	170	Filing a brief in support of an appeal	
1403	300	2403	150	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,370	2453	685	Petition to revive - unintentional	
1501	1,370	2501	685	Utility issue fee (or reissue)	
1502	490	2502	245	Design issue fee	
1503	660	2503	330	Plant issue fee	
1460	130	1460	130	Petitions to the Commissioner	130.00
1807	50	1807	50	Processing fee under 37 CFR 1.17(q)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	790	2809	395	Filing a submission after final rejection (37 CFR 1.129(a))	
1810	790	2810	395	For each additional invention to be examined (37 CFR 1.129(b))	
1801	790	2801	395	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify)

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ 130.00)

SUBMITTED BY

Name (Print/Type) Neil R. Jetter

Signature

Registration No. 46,803
(Attorney/Agent)

(Complete if applicable)

Telephone 561-653-5000

Date November 18, 2004

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.17 and 1.27. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: LI, et al.

Application No.: 10/714,795

Examiner:

Date Filed: November 17, 2003

Group: 3732

For: MULTI-FREQUENCY MICROWAVE-INDUCED THERMOACOUSTIC
IMAGING OF BIOLOGICAL TISSUE

CERTIFICATE UNDER 37 CFR 1.8(a)

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as First Class mail in an envelope addressed to Mail Stop Petition, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on 11/18/04.

Neil R. Jetter, Reg. No. 46,803

PETITION TO MAKE SPECIAL UNDER 37 C.F.R. § 1.102(d)

Mail Stop Petition
Commissioner for Patents
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

Pursuant to 37 CFR §1.102 and MPEP 708.02, Applicants hereby Petitions to Make Special for an advancement of examination the above-described United States Patent Application because the invention contributes to the diagnosis of cancer. Since the above-referenced Application qualifies under 37 C.F.R. § 1.102(d), this petition is filed with the fee pursuant to 37 CFR 1.17(h). However, should an additional fee be determined to be required, the Commissioner is hereby authorized to charge any deficiency in any fees due with the filing of this paper or credit any overpayment to Deposit Account No. 50-0951.

11/23/2004 NGBREH1 00000021 500951 10714795

01 FC:1460 130.00 DA

MPEP 708.02 X is entitled "INVENTIONS RELATING TO HIV/AIDS AND CANCER". MPEP 708.02 X provides an opportunity for special status for applications "relating to HIV/AIDS or cancer" provided the petition is "accompanied by a statement explaining how the invention contributes to the diagnosis, treatment or prevention of HIV/AIDS or cancer".

The invention is entitled " MULTI-FREQUENCY MICROWAVE-INDUCED THERMOACOUSTIC IMAGING OF BIOLOGICAL TISSUE" and discusses cancer detection throughout. For example, the first paragraph of the summary of the invention discloses the invention in its broad aspect:

A method of examining biological tissue includes the steps of radiating a tissue region with a plurality of microwave radiation pulses. The microwave pulses are swept across a range of microwave frequencies. In response to the swept frequency microwave pulses, the irradiated tissue region emits a plurality of thermoacoustic signals. At least one image of the tissue region is formed from the plurality of thermoacoustic signals. The tissue region can comprise breast tissue. A plurality of images from fractional portions of the breast can be taken, and the respective images combined to form an overall image of the breast.


As noted in paragraph 25, the invention represents an improvement in thermoacoustic imaging, which permits the invention to detect smaller tumors.

In contrast to the use of single frequency pulses in earlier work, such as U.S. Pat. No. 6,567,688 to Wang, the microwave pulses used in the present invention are swept across a range of microwave frequencies. Use of frequency sweeping gathers much more information about tissue regions, such as the human breast, as compared to Wang's fixed frequency microwave-induced thermoacoustic imaging. With frequency sweeping according to the invention, the microwave energy deposition patterns of the breast can be obtained as a function of the irradiation microwave frequency. This rich information can be exploited for much better thermoacoustic imaging formation, clutter suppression, and pattern recognition for cancer detection, thus permitting detection of smaller tumors.

In order to help expedite bringing this important cancer detection technology to the market, Applicants respectfully request a timely grant of this petition to make special for an advancement of examination under 37 CFR §1.102(d) and MPEP 708.02.

Respectfully submitted,

Date: November 18, 2004



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Docket No. 5853-376